CHAPTER 4

OTHER CONTROLS

Sections 3 and 4 of this manual discuss erosion, sediment, and storm water management controls which are used to prevent or reduce pollution from construction sites; however, these are not the only potential sources of pollution from construction activity. Chemicals and other materials used and stored on a construction site, and construction activities themselves can become significant sources of pollution. This chapter will cover some of the control measures and practices used to prevent contact between storm water and potential sources of contamination or pollution. It will also help you to identify many potential sources including specific materials and chemicals, problem areas, procedures, and general construction practices. The controls and practices are called Best Management Practices (BMPs) and are an important part of site-specific controls in your Storm Water Pollution Prevention Plan. The BMPs in this chapter deal with prevention—that is, limiting contact between storm water and a potential pollutant. BMPs aimed at the removal of pollutants are considered treatment type BMPs.

This chapter also addresses how to control allowable non-storm water discharges on your site. This chapter provides guidance as to what types of non-storm water discharges are allowable and what measures should be taken to limit or control pollution caused by these discharges.

Q. Are there other controls that should be used on all construction sites?

Typically, there are no specific BMPs that should be used on all construction sites. Only the controls which best address site-specific conditions should be implemented to control or eliminate contamination of storm water. There are four areas of control (in addition to erosion and sedimentation controls and storm water management) that should be addressed in each Storm Water Pollution Prevention Plan. The controls that should be addressed include: minimization of offsite vehicle tracking of sediments; disposal of building material wastes; compliance with applicable State or local waste disposal, sanitary sewer, or septic system regulations; and appropriate pollution prevention measures for allowable non-storm water components of discharge. These controls along with additional controls are discussed in the following sections.

Q. How will I know what other BMPs to consider?

Read the section(s) indicated if any of the areas or materials listed below apply to your site. Using the list and the information sections in this chapter should help you to identify potential risks on your site and select the appropriate BMPs.

Q. What information should you include in your Storm Water Pollution Prevention Plan regarding the controls you are planning for your site?

The following basic information should be a part of your Storm Water Pollution Prevention Plan:

- Provide a narrative description of each practice
- Show the location of each control measure on your site map (if possible)
- Describe the maintenance, inspection, repair, and recordkeeping procedures that will ensure control measures remain effective and in working order during the construction activity
- Describe employee training necessary for the operation and maintenance of the practice or control.

See Chapter 5 for additional information on maintenance, inspection, repair, and employee training.

4.1 GOOD HOUSEKEEPING

Good housekeeping is basically keeping a clean, orderly construction site. One of the first steps towards preventing storm water contamination is improving housekeeping practices and using good common sense. Good housekeeping practices reduce the possibility of accidental spills, improve the response time if there is a spill, and reduce safety hazards as well.

Q. Are good housekeeping practices expensive?

No, good housekeeping practices are inexpensive, relatively easy to implement, and are often effective in preventing storm water contamination.

Q. What are some examples of good housekeeping practices?

Examples of good housekeeping on a construction site include:

- Neat and orderly storage of any chemicals, pesticides, fertilizers, fuels, etc., that are being stored at the site
- Regular garbage, rubbish, construction waste, and sanitary waste disposal
- Prompt cleanup of any spills that have occurred of liquid or dry materials
- Cleanup of sediments that have been tracked by vehicles or have been transported by wind or storm water about the site or onto nearby roadways.

4.2 WASTE DISPOSAL

Proper management and disposal of building materials and other construction site wastes is an important part of pollution prevention. Construction site materials which were overlooked as potential sources of storm water contamination in the past, should now be managed more carefully. This section will help you identify the obvious and not so obvious sources on your site. These may be materials, practices, or locations where there is potential risk of pollution. These materials include surplus or refuse building materials as well as hazardous wastes. Practices include trash disposal, recycling, material handling, and spill prevention and cleanup measures. Controls and practices should meet the requirements of your permit and the Federal, State, and local requirements your site is subject to.

This section discusses some of the waste materials encountered at construction sites and discusses generally how these materials should be stored and handled so that their exposure to storm water is minimized. However, this section does not provide specific details on how to handle or dispose of these materials. You should contact the appropriate waste management agency to find out more about waste disposal regulations, or the appropriate occupational health and safety agency to find out about material storage and handling.

4.2.1 Construction Wastes

Construction projects tend to generate a great deal of solid waste material which is unique to this activity. These wastes are sometimes called "construction wastes."

Construction wastes may include but are not limited to:

- Trees and shrubs removed during clearing and grubbing or other phases of construction
- Packaging materials (including wood, paper, plastic, etc.),
- Scrap or surplus building materials, e.g., scrap metals, rubber, plastic and glass pieces, masonry products, and other solid waste materials
- Paints and paint thinners
- Materials resulting from the demolition of structures (rubble).

Q. What steps should be taken to ensure that construction waste is properly disposed of?

The following steps will help ensure proper disposal of construction wastes:

- Select a designated waste collection area onsite
- Provide an adequate number of containers with lids or covers that can be placed over the container prior to rainfall
- When possible, locate containers in a covered area.
- Arrange for waste collection before containers overflow

- If a container does spill, provide cleanup immediately
- Plan for additional containers and more frequent pickups during the demolition phase of construction
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas
- Check with your local solid waste management agency for specific guidance.

4.2.2 Hazardous Products

Many of the materials found at a construction site may be hazardous to the environment or to personnel. It is always important to read the labels of the materials or products you have onsite; they may contain warning information that will help you to be aware of a potential problem. At a minimum, you should consider any products in the categories listed below to be hazardous products (also see Section 4.5 for Material Management):

- Paints
- Acids for cleaning masonry surfaces
- Cleaning solvents
- Chemicals additives used for soil stabilization (e.g., palliative such as calcium chloride)
- Concrete curing compounds and additives.

Q. What are some basic management practices you can use to minimize or prevent impacts on storm water from hazardous products on construction sites?

Most problem situations involving hazardous materials are the result of carelessness or not using good common sense. The practices listed here will help you to avoid problems associated with the disposal of hazardous materials. Section 4.5 contains further information on storing and handling hazardous materials:

- Check with local waste management authorities to determine what the requirements are for disposing of hazardous materials.
- Use all of the product before disposing of the container.
- Do not remove the original product label from the container, it contains important information.
- If you must dispose of surplus products, do not mix products together unless specifically recommended by the manufacturer.
- The correct method of disposal of these products varies with the product used. Follow the manufacturer's recommended method, which is often found on the label.

4.2.3 Contaminated Soils

Contaminated soils are soils which have been exposed to and still contain hazardous substances. Contaminated soils may be encountered onsite during earthmoving activities or during the cleanup of a spill or leak of a hazardous product. Material storage areas may also have been contaminated by undetected spills. The nature of the contaminants may or may not be known.

Q. Where can I get information on disposal options?

Your State or local solid waste regulatory agency should be contacted concerning information and procedures necessary to treat or dispose of contaminated soils. Some landfills may accept contaminated soil; however, laboratory tests may be required prior to a final decision. Private firms can also be consulted concerning disposal options.

4.2.4 Concrete Trucks

Most construction projects include some sort of concrete work. Usually, concrete is mixed offsite and delivered to the project by truck. The concrete is poured and there is a residual amount of concrete remaining in the truck, or occasionally, excess concrete is delivered, or the concrete is found to be unacceptable and is rejected by the construction inspector or foreman. The truck should be cleaned and the residual concrete dumped before it "sets up" (hardens) in the truck.

Q. Are you allowing concrete trucks to washout or dump onsite?

Emptying or wash out of excess concrete may be allowed onsite. Excess concrete and wash water should be disposed of in a manner that prevents contact between these materials and storm water which will be discharged from the site. For example, dikes could be constructed around the area to contain these materials until they harden, at which time they may be properly disposed of.

4.2.5 Sandblasting Grits

Sandblasting is a commonly used technique to remove paint, dirt, etc., from surfaces. Sand is sprayed on the surface to be cleaned. Sandblasting grits consist of both the spent sand and the particles of paint and dirt removed from the surface.

Q. Why are sandblasting grits a problem?

Sandblasting grits are hazardous waste if they were used to clean old structures where lead, cadmium, or chrome based paints were used. They should not be washed into the storm or sanitary sewer.

Q. What is the best way to dispose of sandblasting grits?

A licensed waste management or transport and disposal firm should be contacted to dispose of this type of used grit.

4.3 MINIMIZING OFFSITE VEHICLE TRACKING OF SEDIMENTS

Day-to-day site practices can have a major impact on storm water contamination because of their potential for generating sediments. A common problem area is offsite vehicle tracking. Two practices are commonly used for minimizing offsite vehicle tracking of sediments: stabilized construction entrances and construction access road stabilization.

Q. What measures have you taken to prevent offsite vehicle tracking?

Controlling offsite tracking of sediments may require attention at most times when there is vehicle traffic at the construction site. The measures listed here are effective if used properly.

- A stabilized construction entrance and construction road are very effective methods for reducing offsite tracking of mud, dirt, and rocks
- Paved streets adjacent to the site should be swept to remove any excess mud, dirt, or rock tracked from the site
- Deliveries or other traffic should be scheduled at a time when you will have personnel available to provide cleanup if it is required.

4.3.1 Construction Road Stabilization

What Is It

A stabilized construction road is a road built to provide a means for construction vehicles to move around the site without causing significant erosion. A stabilized construction road is designed to be well drained so that water does not puddle or flood the road during wet weather. It typically will have a swale along one or both sides of the road to collect and carry away runoff. Stabilized construction roads should be have a layer of crushed stone or gravel which will cover and protect the soil below from erosion.

When and Where to Use It

A stabilized construction road should be installed in a disturbed area where there will be a high volume of construction traffic expected. A construction road should be stabilized at the beginning of construction and maintained throughout construction. Construction parking areas should be stabilized as well as the roads. A stabilized construction road should not be located in a cut or fill area until after grading has been performed.

What to Consider

Stabilized construction roads should be built to conform to the site grades; this will require a minimum amount of cut and fill. They should also be designed so that the side slopes and road grades are not excessively steep. Construction roads should not be constructed in areas which are wet, or on highly erodible soils.

Advantages of Construction Road Stabilization
• Reduces the amount of erosion, dust, and tracking of soil off of the site • Provides an effective way for vehicles to move around the construction site, even during wet weather
Disadvantages of Construction Road Stabilization
• Can be expensive • May require maintenance to replace gravel or repair ruts

4.3.2 Stabilized Construction Entrance

What Is It

A stabilized construction entrance is a portion of the construction road which is constructed with filter fabric and large stone. The primary purpose of a stabilized construction entrance is to reduce the amount of soil tracked off of the construction site by vehicles leaving the site. The rough surface of the stone will shake and pull the soil off of the vehicles tires as it drives over the entrance. The stone will also reduce erosion and rutting on the portion of the road where it is installed by protecting the soil below. The filter fabric separates the stone from the soil below, preventing the large stone from being ground into the soil. The fabric also reduces the amount of rutting caused by the vehicle tires by spreading the weight of the vehicles over a larger soil area than just the tire width.

When and Where to Use It

A stabilized construction entrance should be installed at every point where traffic leaves or enters a disturbed area before construction begins on the site. Typically, stabilized construction entrances are installed at the locations where the construction traffic enters or leaves an existing paved road; however, a stabilized construction entrance should not be installed over an existing pavement (except for a slight overlap as shown in Figure 4.1). Where the construction will require a permanent access road or driveway, it is recommended that a stabilized construction entrance be installed in this location prior to the permanent pavement.

What to Consider

Stabilized construction entrances should be wide enough and long enough so that the largest construction vehicle will fit in the entrance with room to spare. If a large amount of traffic is expected at an entrance, then the stabilized construction entrance should be wide enough to fit two vehicles across with room to spare.

If the stabilized construction entrance has to cross a swale or stream, then a stream crossing should be provided (see page 3-42).

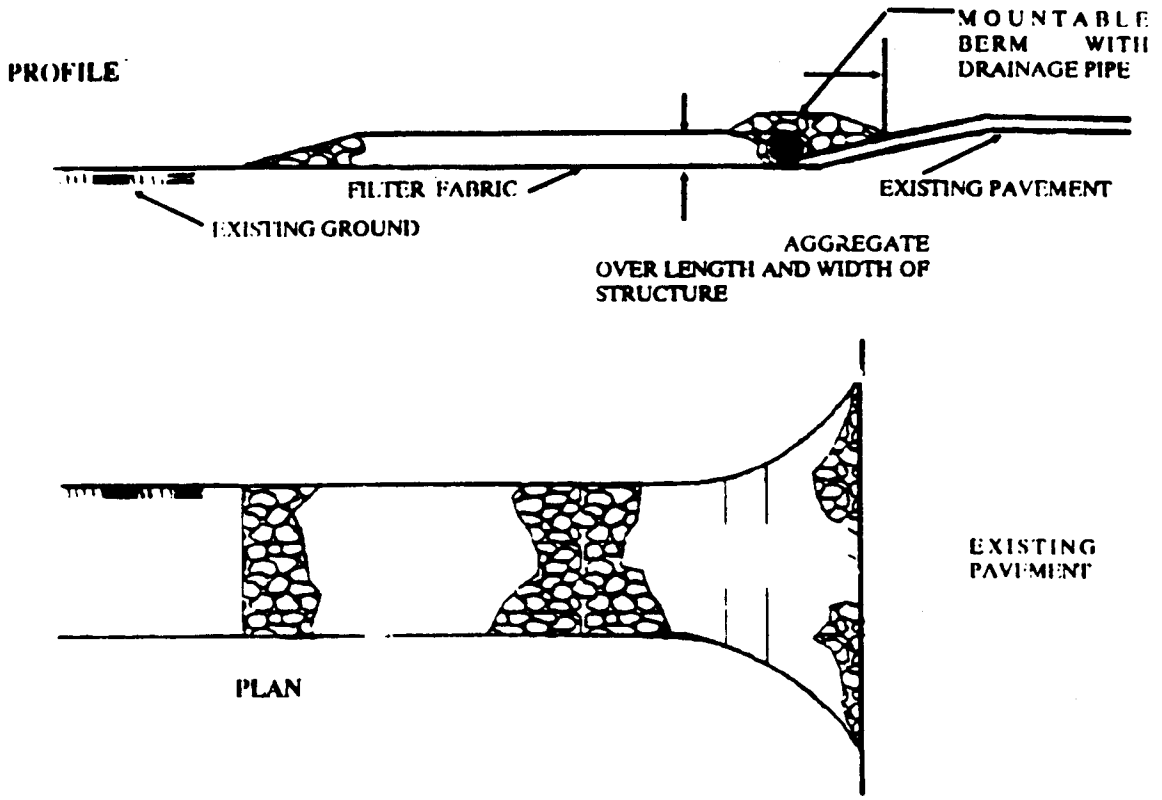

FIGURE 4.1 STABILIZED CONSTRUCTION ENTRANCE
(Modified from Maryland Department of the Environment, 1991)

Stone used for the construction entrance should be large enough so that it is does not get picked up and tracked off of the site by the vehicle traffic. Sharp edged stone should not be used to avoid puncturing tires.

If vehicles will be turning onto the paved road or drive from the stabilized construction entrance, then an apron should be provided as shown above so that vehicles do not go off of the stabilized construction entrance before they leave the site.

The temporary construction entrance may be provided with a vehicle wash rack which drains to a temporary sediment trap or other sediment removing measure. This will allow vehicle tires to be washed prior to leaving the site and ensure that wash water sediments are removed and can be properly disposed of.

Advantages of a Stabilized Construction Entrance
• Is an effective means for reducing the amount of soil tracked off of a construction site • Can improve the appearance of the construction site from the public's point of view
Disadvantages of a Stabilized Construction Entrance
• Only works if it is installed at every location where traffic leaves and enters the site • Cannot always remove all of the soil tracked off of the disturbed areas by vehicles; when soil is tracked onto a road, it should be cleaned up immediately • Stone may have to be added to keep it effective

4.4 SANITARY/SEPTIC DISPOSAL

Q. How should I manage sanitary or septic wastes on a construction site?

Almost all construction sites have sanitary facilities for onsite personnel. The most commonly found facilities are portable facilities that store the sanitary wastes and should be emptied periodically. Other facilities include temporary facilities that employ septic systems for treatment and disposal of the sewage, or temporary facilities that discharge to a sanitary sewer system. Sanitary or septic wastes that are generated onsite should be treated or disposed of in accordance with State or local requirements. Depending upon the facilities that will be used onsite, this may require one or more of the following:

- Domestic waste haulers should be contracted to regularly remove the sanitary and septic wastes and to maintain the facilities in good working order. This will prevent overloading of the system which could allow discharges to storm water runoff.
- Wastes should be treated to an appropriate level before discharging.
- Facilities should be properly hooked into the sanitary sewer system to prevent illicit discharges.

Untreated, raw sewage or septage should never be discharged or buried onsite.

Q. What do I need to do to ensure and demonstrate that I am complying with State or local sanitary or septic system regulations?

To ensure that you are in compliance with State or local requirements for sanitary or septic wastes, you should contact your local government and State regulatory agencies. Many States have regulations concerning On Site Disposal Systems (OSDS) or discharges to sanitary sewers. Localities often have ordinances which deal with the proper management of sanitary and septic wastes. In addition, if sewage is being discharged to the sanitary sewer, the local Publicly Owned Treatment Works (POTW) should be contacted because they may have certain requirements as well. If wastes are being hauled offsite, your State may have a licensing program for waste haulers. If your State does have this, you should only contract with these licensed haulers. If your State does not, a reputable hauler should be chosen.

Contacting the proper authorities prior to the development of your Storm Water Pollution Prevention Plan will provide you with the information needed for demonstrating compliance with the appropriate regulations.

4.5 MATERIAL MANAGEMENT

Material management is important because the best way to avoid a problem is to try to prevent it at its source. On a construction site the material storage area can become a major source of risk due to possible mishandling of materials or accidental spills. An inventory of the material storage area and of the site should be made. Special care should be taken to identify any materials that have the potential to come in contact with storm water. This will help raise your awareness and to plan effective controls.

There are a number of risks (other than contamination of storm water) to consider in the management of materials on a construction site, including health and safety of employees, or contamination of groundwater. This section; however, only addresses measures to minimize the risk of storm water contamination. Contact your local regulatory agency to find out about measures to minimize other risks.

Q. What types of materials should be considered when evaluating potential risks?

The following are some of materials commonly found on a construction site. The material inventory list should include these for risk assessment:

- Pesticides
- Petroleum products
- Fertilizers and detergents (nutrients)
- Construction chemicals
- Other pollutants
- Hazardous products (also see Hazardous Products Section 4.2.2).

Q. What information would be useful to consider when identifying risks onsite?

The types of information that should be considered and the questions you should ask yourself when identifying risks include:

- What types of materials are stored onsite?
- How long will the materials be stored before use?
- Are you storing more than is really needed?
- How are the materials stored and distributed?
- How can potential storm water contact be avoided?

Q. What methods are helpful in reducing potential risks?

Good housekeeping and material management practices for storage and use will help minimize exposure risks. This chapter contains suggested storage and handling practices for your use for the various categories of risks. Writing your spill prevention plan (Section 4.6) will also help you to identify ways to cut down the risk of exposure of materials to storm water.

4.5.1 Pesticides

Pesticides include insecticides, rodenticides, and herbicides which are often used on construction sites.

Q. What steps should be taken to reduce the risks in using this type of material?

The steps that should be taken to reduce the risks of using pesticides include the following:

- Handle the materials as infrequently as possible
- Observe all applicable Federal, State, and local regulations when using, handling, or disposing of these materials (Process, Procedures, and Methods to Control Pollution Resulting from All Construction Activity, U.S. EPA).

Q. What management practices could you use for these materials?

The management practices used to reduce the amounts of pesticides that could contact storm water include the following:

- Store pesticides in a dry covered area
- Provide curbs or dikes to contain the pesticide if it should spill
- Have measures on site to contain and clean up spills of pesticides
- Strictly follow recommended application rates, recommended application methods, (i.e., only apply the amounts necessary for the job).

4.5.2 Petroleum Products

Oil, gasoline, lubricants, and asphaltic substances such as paving materials are considered petroleum products. These materials should be handled carefully to minimize their exposure to storm water.

Q. Where do petroleum products usually occur onsite?

Petroleum products usually occur in two site areas.

- Areas where road construction of some type is occurring
- Vehicle storage areas or areas of onsite fueling or equipment maintenance.

Q. What steps should be taken to reduce the risks in using this type of material?

These following practices will help to reduce the risks in using petroleum products:

- Have equipment to contain and clean up petroleum spills in fuel storage areas or on board maintenance and fueling vehicles
- Where possible, store petroleum products and fuel vehicles in covered areas and construct dikes to contain any spills
- Contain and clean up petroleum spills immediately
- Preventive maintenance for onsite equipment is one BMP to prevent leakage (e.g., check for and fix gas or oil leaks in construction vehicles on a regular basis.)
- Proper application of asphaltic substances (see manufacturers' instructions) will also reduce the risk of a spill.

4.5.3 Fertilizers/Detergents

Nutrients such as phosphorous and nitrogen are found on construction sites in both fertilizers and detergents. Fertilizers are needed on construction sites to provide the nutrients for plant growth; however, when excess quantities of fertilizers are used or when fertilizers are washed away by storm water runoff, they may be a major source of pollution. An excess of nutrients reaching a body of water can cause an overgrowth of water plants which then use up the oxygen in the water, creating an unfavorable environment. Detergents can contribute to water pollution if wash waters are released into the environment (see the discussion on non-storm water discharges).

Q. What steps can be taken to reduce the risks of nutrient pollution?

The steps that can be taken to reduce the risks of nutrient pollution include:

- Limit the application of fertilizers to the minimum area and the minimum recommended amounts
- Reduce exposure of nutrients to storm water runoff by working the fertilizer deep into the soil (depth of 4 to 6 inches) (Process, Procedures, and Methods to Control Pollution Resulting from All Construction Activity, U.S. EPA), instead of letting it remain on the surface
- Apply fertilizer more frequently, but at lower application rates

- Hydro seeding where lime and fertilizers are applied to the ground surface in one application should be limited where possible
- Limit the use of detergents onsite; wash water containing detergents should not be discharged in the storm water system.
- Implement good erosion and sediment control to help reduce the amount of fertilizers that can leave the site as well as sediments
- Apply fertilizer and use detergents only in the recommended manner and only in recommended amounts.

4.5.4 Natural Geologic Drainage

Other pollutants include acid and alkaline solutions from exposed soil of rock units high in acid, and alkaline forming natural elements.

Q. What steps should be taken to reduce the risks in using this type of material?

The control of these pollutants involves good site planning and pre-construction geological surveys. Neutralizing acid or alkaline solutions often provides the best treatment.

- Seal fractures in the bedrock with grout and bentonite, this method will often reduce the amount of acid or alkaline seepage.

4.5.5 Hazardous Products

Q. What materials are in this category?

As discussed in Section 4.2.2, hazardous materials include (but are not limited to) paints, acids for cleaning masonry surfaces, cleaning solvents, chemical additives used for soil stabilization, and concrete curing compounds.

Q. What are some basic management practices you can use to minimize or prevent impacts from hazardous products on construction sites?

Most problem situations involving hazardous materials and other pollutants are the result of carelessness or not using good common sense. The practices listed below will help to avoid pollution of storm water by these materials.

- Have equipment to contain and clean up spills of hazardous materials in the areas where these materials are stored or used.
- Contain and clean up spills immediately after they occur.
- Keep materials in a dry covered area.

4.6 SPILLS

Spills are a source of storm water contamination, and construction site spills are no exception. Spills can contaminate soil and water, waste materials, and result in potential health risks. In addition to the other measures and practices you have adopted, you should prepare to deal quickly and effectively with accidental spills. A spill control plan can help you to be prepared. This section discusses your additional responsibilities if there is a reportable quantity spill.

Q. Do you have a spill control plan for your site?

Construction site supervisors should create and adopt a spill control plan which would include measures to:

- Stop the source of the spill
- Contain the spill
- Clean up the spill
- Dispose of materials contaminated by the spill
- Identify and train personnel responsible for spill prevention and control.

Q. Do you know what specific spill prevention methods and response to use?

The following measures would be appropriate for a spill prevention and response plan.

- Store and handle materials to prevent spills.
  - Tightly seal containers.
  - Make sure all containers are clearly labeled.
  - Stack containers neatly and securely.
- Reduce storm water contact if there is a spill.
  - Have cleanup procedures clearly posted.
  - Have cleanup materials readily available.
  - Contain any liquid.
  - Stop the source of the spill.
  - Cover spill with absorbent material such as kitty litter or sawdust.
- Dispose of contaminated materials according to manufacturer's instructions or according to State or local requirements.
- Identify personnel responsible for responding to a spill of toxic or hazardous materials.
  - Provide personnel spill response training.
  - Post names of spill response personnel.

- Keep the spill area well ventilated.
- If necessary, use a private firm that specializes in spill cleanup.

Check the spill reporting requirements listed in your permit, typically any spill should be reported. See Section 2.

4.7 CONTROL OF ALLOWABLE NON-STORM WATER DISCHARGES

NPDES storm water permits for construction activities typically include a prohibition against non-storm water discharges. Permits will state that all discharges covered by the permit must be composed entirely of storm water. However, permits may list some non-storm water discharges that, when combined with storm water discharges, may be authorized by the permit. These exemptions may be allowed provided they are addressed in the Storm Water Pollution Prevention Plan for the site. The following is a list of non-storm water discharges which are typically permitted. However, check your permit to determine what non-storm water discharges are allowable.

- Discharges from fire fighting activities
- Fire hydrant flushings
- Potable water sources (including waterline flushings)
- Uncontaminated ground water (including dewatering ground water infiltration)
- Foundation or footing drains where flows are not contaminated with process materials such as solvents
- Springs, riparian habitats, and wetlands
- Irrigation water
- Exterior building washdown
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used
- Air conditioning condensate.

Q. How do these allowable non-storm water discharges relate to discharges on construction sites?

Common construction activity discharges that fall under the allowable non-storm water discharges include the following:

- Waterline flushings from the disinfection of newly installed potable water piping systems
- Irrigation water discharged during seeding and planting practices
- New construction exterior building washdown discharges
- Pavement wash waters from dust control and general housekeeping practices
- Foundation and footing drain discharges from subsurface drainage systems
- Uncontaminated ground waters from dewatering of excavated areas.

Q. What should be done with non-allowable non-storm water discharges?

You have three choices for handling non-storm water discharges which are not allowed by your permit:

1. Eliminate the source of the discharge.
2. Apply for a separate permit for the discharge.
3. Direct the discharge to a sanitary sewer system. Note: You should check first with the operator of the sewer system to see if you are allowed to discharge the material in question into the sanitary sewer.

Q. How should the allowable non-storm water discharges be addressed in the Storm Water Pollution Prevention Plan?

The allowable non-storm water discharges should be identified in the Storm Water Pollution Prevention Plan. For each of the discharges, practices or controls that will be used to prevent pollution from these discharges should be described in detail.

Q. What types of controls or practices can be used to prevent pollution from these discharges?

The following general practices should be considered:

- All downslope site sedimentation and erosion controls should be in place prior to the discharge
- Discharges with sediment loads should be discharged so that sediment pollution is minimized. These discharges include dewatering operation discharges, and discharges from sediment traps and basins.
- Discharge should only be directed to areas that are stabilized to minimize erosion (e.g., buffer zones, vegetated filter strips, inlet and outlet protection, level spreaders, etc.). Do not discharge non-storm water flows onto disturbed areas.

Q. What types of controls can be used for discharges that have sediments?

Discharges with sediment should be directed to pass through a sediment filtering device. Sediment filtering devices include sediment traps, basins, silt fences, vegetated filter strips, sump pits, or sediment tanks.

4.7.1 Dewatering

What Is It

Dewatering is the method used to remove and discharge excess water from a construction site. The most common procedure used is to pump water out of areas where it does not otherwise drain off, such as excavated areas, sediment basins, and sediment traps. Dewatering may also include methods used to lower the ground water table to provide a stabilized area for construction.

When and Where to Use It

Dewatering may be used during construction to remove accumulated water and sediments from sediment traps and basins to ensure their effectiveness throughout the entire project. At the end of the project, dewatering of sediment traps and basins is appropriate prior to removing the last sediment control measures. Water remaining in excavated areas may be eliminated by dewatering so that construction can proceed on schedule.

What to Consider

Dewatering discharges usually have a very high sediment content; therefore, sediment control should be provided before the discharge enters a receiving water.

Sediment traps and basins are often used to remove sediment from dewatering of excavation areas.

Filtering should also be provided when discharge results from dewatering a sediment trap or basin. Methods to consider for this purpose are noted below in order of preference:

- A sump pit—discussed in detail in Section 4.7.2
- A floating suction hose which allows clean water at the surface to be pumped out before the hose sinks low enough to pick up sediment-laden water
- A standpipe attached to the base of the sediment basin riser with slits to control inflow and wrapping of filter fabric to aid in filtering sediments.

Advantages of Dewatering
• Provides for the proper discharge of water from sediment traps and basins and excavation areas onsite • Use of efficient sediment removal methods (such as a sump pit, floating hose, or standpipe) allows safe release of dewatering discharges into a receiving water
Disadvantages of Dewatering
• The floating hose method requires careful monitoring since pumping should be stopped as soon as sediments are encountered • Even the initial discharge pumped in the floating hose method requires additional filtering • A location should be found to dispose of sediments properly, meeting appropriate Federal, State, and local regulations

4.7.2 Sump Pit

What Is It

A sump pit is a temporary hole or pit placed so that it can collect water from sediment traps and basins, or excavations. In the center of the pit is a standpipe with holes which is surrounded by stone. Water that collects in the pit flows through the gravel into the standpipe and is pumped out to a filtering device or, in some cases, directly to a receiving water. The sump pit discharge may be pumped directly to a receiving water only if the standpipe has been properly wrapped in filter fabric.

When and Where to Use It

A sump pit may be used to dewater a sediment trap or basin, or it may be used during construction when water collects in an excavation.

What to Consider

The number of sump pits and their location will depend on the individual site and any State or local requirements.

The standpipe should have holes in it to allow water to flow in and should be extended at least a foot over the top of the pit.

If the sump pit is to discharge directly into a receiving water, then the standpipe should be wrapped in filter fabric before the pit is backfilled with stone.

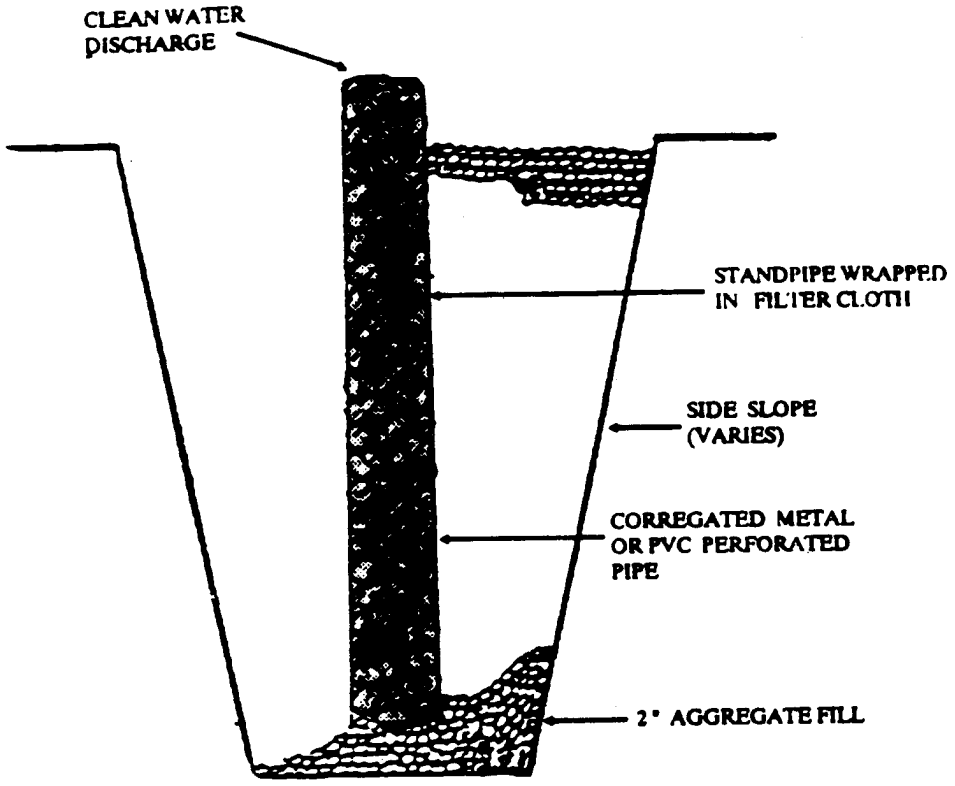

FIGURE 4.2 SUMP PIT
(Modified from Maryland Department of the Environment, 1991

Advantages of a Sump Pit
• A sump pit may be used for dewatering where space is limited, such as in city areas
Disadvantages of a Sump Pit
• If the holes in the standpipe or filter fabric are too small, they will clog

4.8 SUMMARY

There are a number of other controls which should be considered in addition to erosion, sediment, and storm water management while preparing a Storm Water Pollution Prevention Plan. These controls include measures which prevent potentially polluting construction materials from coming into contact with storm water. Measures include good housekeeping and proper waste disposal, as well as controls which prevent sediments from being tracked off site by construction vehicles, and proper control of the non-storm water flows on the site. These other controls should not be overlooked. They are an important part of pollution prevention at construction sites.